

Regional Overview of Policy and Legislations on Provision of ICT Access for Disadvantaged Communities through Public-Private Partnership

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THE SETTING

Asia-Pacific Region and Millennium Development Goals

The Asia-Pacific Region, spanning from Turkey in the west to Kiribati Island in the east is home to more than 60 percent of the world's population, and about 75 percent of the world's poor people. About 60 percent of the region's population lives in rural setting mostly mired in poverty. This region also constitutes of nations with diverse experience and achievements. With the overall objective of improving life quality of the people and enhance international cooperation, United Nations Congress developed, at the beginning of this millennium, eight specific development goals to be attained through 18 achievable targets by the year 2015. Policy makers from member states including those from the Asia-Pacific Region have considered the eight Millennium Development Goals (MDGs) as a major guideline for formulating respective developmental policies and national strategies to achieve the targets therein.

There are 62 member states, including 9 associate members from Asia and the Pacific region characterized by diverse economic, socio-cultural, political and geophysical natures. The region comprise of highly developed nations as well as least developed nations, landlocked nations and small island nations, and huge nations like China and India that cover two-thirds of the total population of the region as well as small island nation like Singapore.

The recent progress review of MDGs in Asia and the Pacific region has shown the status of different indicators attained by member states. Surprisingly, the extent of application of Information and Communication Technology (ICT) in a nation comes under the purview of the eighth goal, i.e., "*Develop a global partnership for development.*" The target 18 indicates the target to be achieved by 2015 in connection with the application of ICT. The target underlines "*In cooperation with private sector make available the benefits of new technologies, especially information and communications*". The last three indicators in the MDGs, as shown below, depict the use of ICT services in respective nations:

Indicator 47: Telephone lines and cellular subscribers per 100 population

Indicator 48.a: Internet users per 100 population

Indicator 48.b: Personal computers per 100 population

Annex 1: *Goal 8-Target 18: Application of ICT per 100 Population* shows the status of telephone subscribers, internet and personal computer uses per 100 populations. Fewer countries like Hong Kong/China, Australia, Singapore, Macao/China and Japan have more than one telephone per person, and over one-third of the population possesses personal computers and uses internet. Whereas, in larger number of countries such as Myanmar, Nepal, Bangladesh, Cambodia, Lao, Bhutan, Pakistan, India and others where only 10 percent population have access to telephone lines, it is hard to conceive them to possess personal

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computer and internet facility. It has been observed that a strong correlation exists between personal computer ownership and internet use. The information given here are based on 2004 statistics, and the status of ICT use by many of the nations may have advanced in the last two years. However, it would not be wrong to assume that great disparities still exist in the field of ICT uses among nations in the Asia-Pacific region. This paper focuses on nations with low ICT accesses which are also home to maximum number of the disadvantaged communities.

Digital Divide and Disadvantaged Communities

The development of ICT is widely recognized as a vehicle for economic growth of a nation. The importance of ICT infrastructure and its potential to promote social developments is also well established. It also underpins one of the basic rights of human beings, that is, the right to seek, receive and impart information. The rapid development in this technological sphere has cut across all boundaries making information accessible to all societies, although more for the privileged ones. ICT revolution has shortened time spans and physical distances and brought about great possibilities. It has redefined life styles and development perspectives and thus significant investments are being made both in the private as well as public sectors to benefit from it. In the dawn of the new millennium, more and more nations are gearing up to meet the challenges of the 'digital economy' and to participate in an increasingly knowledge-based society.

Development in ICT is seen in the form of land and mobile telephone, the multimedia, radio, cable television, computers, internet, wireless technology, optical fibers, satellite connectivity and much more. A wide range of technologies are available to address the service needs of communities across different sectors and helping governments to deliver efficient services. Its utility is all the more significant for servicing the rural and remote areas by connecting the people there and bringing them in the development mainstream through the exchange of vital information. These services may be in healthcare, education, agriculture and marketing, entertainment, property records, improving economic conditions, gainful employment or simply dissemination of news. World summits on the information society (WSIS) has brought to fore the role of ICT for development and highlighted its significance.

However, there is concern about the ICT being responsible for creating digital divide between the developed and developing nations and between urban and rural populations. It has been felt that there will be significant difference in economic conditions of nations with and without developed ICT accesses, and this difference is likely to pose serious concerns even to the developed nations.

Communities can be defined as disadvantaged in terms of economic equity, social exclusiveness, political and human rights, physically disabled, geospatially separated, rural settlements with minimum development infrastructures, and others. Proper alignment of ICT application in various services may reduce all types of disabilities, and the disadvantaged population may be in the position to participate equally in the mainstream development efforts. This paper focuses mainly on rural settlements with minimum development infrastructures which are also home to maximum number of the disadvantaged communities.

ICT Development and ICT for Development

Two distinct approaches have recently been observed – ICT development and ICT for development. Since the last decade, the development of computing and communication technology integrated with nano (miniature) technology has been rapidly progressing. New innovations both in software and hardware, and which are also commercially viable, have been made in these fields in a very short span of time. Obviously, it is always the advantaged

communities that are capable of utilizing such technologies because of their affordability and accessibility. The disadvantaged communities always lag behind in the development race.

However, information and communication technology can in fact be considered as a development tool – a tool for the socio-economic empowerment of the disadvantaged communities. Providing access to ICT to the disadvantaged population has been a policy priority of many nations of Asia-Pacific region since the last half decade. If the ICT development goes side by side with the ICT for development, then nations can think of reducing the gap between advantaged and disadvantaged populations.

Various applications of ICT for development are in use in varied degree in the Asia-Pacific region. Where Japan and Korea are the major research-oriented nations for electronic devices in this region, China and India are focusing on the development of appropriate hardwares and softwares. As a tool for development, ICT can be an effective means for the delivery of government services to rural disadvantaged population, for the development of agricultural extension service, SMEs and marketing portals, medical support provide networking for needy but distant people, and opportunities for distance teaching-learning to the teachers and students. In ICT language these are termed as e-governance, e-commerce, e-learning, e-healthcare, e-community centre, etc. To the disadvantaged population living in the rural areas, the most important support for their empowerment is always education, income generation and healthcare services. Information enhances knowledge and knowledge empowers them for development. Disadvantaged communities need information on government services, education and healthcare along with income generation activities. ICT enabled services directed towards these areas empower them for development. This paper focuses mainly on e-centres or rural multipurpose community telecentres which are considered as important vehicle for accessing ICT for disadvantaged communities.

Public Private Partnership and Program Sustainability

It is widely accepted that, in economic terms, the private sector has the potential for investment and is also efficient in service delivery. If the government considers the private sector as a partner in the delivery of government services to targeted communities on the basis of cost-benefit sharing, the communities will be benefited through cost effective, timely and quality delivery of services to them. The delivery of the services on partnership between the public sector and the private sector has proved to be very successful in many government delivery services.

In many countries, public-private partnerships have been quite attractive in large infrastructure building and servicing of highways, drinking water and irrigation system and many others. Application of Public Private Partnership (PPP) is quite common in the area of infrastructure development in developing countries. They embody in various forms such as Build Operate Transfer (BOT), Service Contract, Management Contract, Annuity, Special Project Vehicle (SPV), and Community or User Group based contracts. BOT, in turn, appear in different forms such as Build and Transfer (BT), Build Own Operate and Transfer (BOOT), Build Transfer and Operate (BTO), Lease Operate and Transfer (LOT), Lease Build and Operate (LBO), and Develop Operate and Transfer (DOT).

In case of ICT enabled service delivery to disadvantaged communities, while the PPP approach is increasingly gaining popularity, it is mired by complaints of not becoming financially sustainable and not having growth inertia of its own. The service to disadvantaged people should be on a long term basis propelled by the profits generated through service delivery. The private sector always looks at the enterprise, whether social or business, from a

long term perspective for its sustainability. If an enterprise can satisfy the customers (here, the disadvantaged communities) the enterprise has a chance of sustainability and growth. Private sector will be happy to join hands with the government to deliver their services only after identifying all vital factors. This paper focuses mainly on social enterprises as a vehicle which may be one form of partnership between public and private entities.

State Responsibility for ICT Access to Disadvantages

The responsible government takes the lead to initiate, invest, facilitate and also partially implement the process. The government also takes the responsibility of coordinating the stakeholders of the business for win-win benefits to all. Stakeholders are referred to those that are affected by the enterprise’s activities and also those that affect the operation of the enterprise. Major stakeholders of the enterprise are government institutions- national and local, disadvantaged communities, enterprises that supply connectivity and power, research institutions and universities, community centres, civil society organizations, social enterprises, community-based organizations, religious centres, schools, healthcare centres, post offices, and libraries etc. This paper focuses mainly on the responsibility of a government policy and legislations which facilitate ICT access for disadvantaged communities.

POLICY AND ACTIVITIES REVIEW: SELECTED ASIA-PACIFIC NATIONS

Policy Review Framework

As the nations of Asia and the Pacific region are of diverse nature, the policy review was carried out in the following framework.

- The nations that were developed and having high penetration of ICT enabled services were not taken into consideration for policy review, as these nations are comparatively better in terms of ICT access and having low proportion of disadvantaged communities.
- The *MDG progress review report 2006* was taken as the prime source for stratifying nations as per their progress status. Nations having recent statistics on MDGs are stratified into four quadrants with high/low status of two parameters of Latest Status Index and Composite MDG Progress Index. 28 countries having sufficient information were stratified as (1) Moving ahead nations, (2) Catching up nations, (3) Falling ahead nations and (4) Loosing Momentum nations. Four nations

LATEST STATUS INDEX	HIGH	<u>LOOSING MOMENTUM</u>	<u>MOVING AHEAD</u> Armenia, Azerbaijan China Iran, Kyrgyzstan Malaysia Palau Russian Federation Thailand Tonga, Turkey Vietnam
	AVERAGE	Georgia Kazakhstan Uzbekistan Fiji Samoa	
LOW		Bangladesh Indonesia Lao PDR Mongolia Myanmar Pakistan Papua New Guinea The Philippines	Afghanistan India Nepal
		FALLING AHEAD	CATCHING UP
		LOW	AVERAGE
		HIGH	
		COMPOSITE MDG PROGRESS INDEX	

Figure 1:
Stratification of Asia-Pacific Nations based on Millennium Development Goals Status and Progress Index, 2006

were selected for review purpose each from these four categories of nations, namely Vietnam, Nepal, Bangladesh and Kazakhstan. (Refer Fig. 1)

- China and India were also selected for review as their economic growth rate, mass disadvantaged communities and their capability of developing ICT industry, and have vast potential compared to other nations in the region.
- In addition to these six nations, The Philippines was also selected for review to represent an island nation.
- Secondary data and information on policy and regulatory mechanisms pertaining to ICT industry were collected from websites of the respective governments. Progress reports, meeting reports, expert papers on various policy reviews and status were also collected through the internet. Best practices of ICT access to the disadvantaged communities were also reviewed. The suggestions and recommendations based on the best practices of these nations were also studied (Refer References at the end of this paper).
- The policy review mainly contains the policies and programs of governments, regulatory instruments and institutions, varied cases of application of ICT enabled services among disadvantaged or rural poor communities, the modalities of operation of enterprises, especially focusing on the public-private partnership mode, and challenges and suggestions for further development.

Policy and Programs

Governments of this region have recognized the importance of ICT industry for the overall development of the nations and have clearly embodied this in their main policy documents since 1997/98.

The start of this millennium has heralded the ICT revolution at the government level in the Asia-Pacific region. Governments are continuously trying to formulate specific policies and programs to strengthen the ICT industry. They regularly review and update their ICT policy with focus on information technology, telecommunication, science and technology, and e-governance and human capital development.

They have supported these with appropriate long term plans and mid-term strategies and comprehensive action programs for ICT development. The governments have also formulated strategies for wide application of ICT in rural areas incorporating multi-stakeholders.

Bangladesh's ICT policy, known as National Science and Technology Policy, gives major thrust to the development of ICT in the nation. China's National Strategy of Informatization, and its 5-year 10th Plan shows the intention of the government to provide ICT access to all its communities. India's New Telecom Policy, 1999, Broad Band Policy, 2004, and the latest National e-Governance Plan, 2006 indicates India's strive to reach to all its communities including those in rural areas. Kazakhstan's Telecommunication Sector's Development, 2006 has indicates its openness to reach to rural areas through ICT. The Long Term Policy on Information and Communication Sector, 2002, Telecommunication Policy, 2004 and the IT Policy, 2004 of Nepal have underscored the nation's understanding of the importance of ICT and the need for its development. The Philippine's Information Technology Plan, Government Information System Plan, 2000, Philippine Information Infrastructure Policy and the Midterm Philippine Development Plan, 2004 have shown the drive of the government for ICT development. Vietnam Post and Telecommunication Development Strategy and National

Strategy Plan and Policy for ICT Development are the major policy documents of the government that show its concern for ICT development in the nation.

Barring a few examples that specifically focus on reaching the disadvantaged communities living in the rural areas for their empowerment, most of the policies emphasize on wider and secured information and communication accessibility to the population.

Responsible Institutions

Various apex level institutions of the governments have been instituted and designated as agencies responsible for ICT services to the population. These high level institutions formulate policies and programs and also carry out regulatory and facilitative functions.

Besides, other institutions having different objectives are also found to be working toward ICT development in some nations. In this context, ICT is found to serve multiple functions – ICT in science and technology, ICT for information and communication, ICT for government service delivery, ICT for local development, and ICT for health and education.

Since ICT demands regulation of cyber crime, and providing information security, governments have given such regulatory function to some specific institutions

From certain perspective, ICT appears as an offspring of the post and telegraph systems with additive features of modern technology on information and communications. In the early phase of implementations of ICT programs, many apex institutions were placed within the domain of post and telecommunication.

Vietnam's Ministry of Post and Telematics is an apex body responsible for ICT as well besides other institutions involved in that area. In the Philippines, the Commission on Information and Communication Technology, National Telecommunication Commission, Information Technology and Electronic Communications Council, the Department of Information and Communication Technology, and Telecommunications Office are some of the institutions with responsibilities for regulating and facilitating ICT development and applications. Nepal has Ministry of Science and Technology, Ministry of Communications, High Level Commission on Information and Communications Technology, National Information Technology Centre, and Nepal Telecommunication Authority all being accorded the responsibilities for regulation and development of ICT industry in the country. In Kazakhstan, Agency for Informatization and Communication is an agency responsible to look for ICT development and regulation in the country. The Department of Information Technology within the Ministry of Communications and Information Technology has been given the responsibility of formulation, implementation and review of national policies in India. In China, Ministry of Information Industry and Ministry of Posts and Telecommunications have the responsibility for providing ICT access to the population. Ministry of Post and Telecommunications, Ministry of Science and Information and Communications Technology, Bangladesh Telecommunications Regulatory Commission, Bangladesh Telegraph and Telephone Board, Bangladesh Rural Telecom Authority are few apex bodies given the responsibility of formulating policies and national plan and regulating them in the Bangladesh.

Sometimes, due to confusion in coordination and understanding, some apex bodies responsible for both ICT development and development through ICT end up creating unfavorable environment for delivering real benefit to the population. Strangely, in none of the countries has any rural development agency been made directly responsible for ICT. Very few governments have established one specific central agency responsible for overall scope of

ICT. Likewise, there are a number of governments that have not considered ICT as a development vehicle for the disadvantaged communities.

Legislations

Legislations in the forms of acts, rules, regulations, directives and others have been found and a number of which are on the process of revision, enactment and implementation.

Legislations serve two-fold objectives – regulating the technology uses for creating fair and equity participation of the population, and facilitating the use of ICT by the population for their empowerment.

There are no separate legislations on ICT use for the advantaged and disadvantaged communities in most of the nations; that is, no distinction is made between the two. A few of them include provision for rebate on customs duty and tax on ICT equipment used for rural and educational purposes. Some also have provision for cross subsidy for ICT infrastructure development in rural areas by the communities of urban areas.

Many governments have opened up licensing to private sectors for promoting access to telecommunication and thus creating competition for the benefit of the general population. At the same time, some have also gone for privatization of ICT facilities for establishing and operating rural ICT centres on public-private partnership.

Various forms of legislations govern ICT with regards to licensing, fixing of communication tariffs, customs and duties, facilities and other regulatory measures in different nations. However, most legislations on ICT focus on telecommunication.

Bangladesh Telecommunications Act, 2001, Wireless Technology Act, 1933, and Bangladesh Computer Council Act, 1990 govern ICT related issues in Bangladesh. Regulations of Telecommunications of the People's Republic of China, 2000 and Administrative Methods of Internet Services, 2000 regulate ICT in China. Likewise, Information Technology Act, 2000, Guidelines for Technical and Financial Support for Establishment of State Wide Area Network (SWAN), The Communication Governance Bill, 2001, the Right to Information Act, 2005 are few examples of legislations related to ICT industry in India. Kazakhstan has enacted Law of Republic of Kazakhstan on Communications, 2004, Rules of Interconnections of Telecommunications Networks to the Public Switched Telecommunication Networks, and Regulation of Traffic Flow in the Public Switched Telecommunications Network. National Broadcasting Act, 1992, Telecommunications Act, 1997, Electronic Transaction Ordinance, 2004 are some instruments that regulate ICT operation in Nepal. The Philippines Public Telecommunications Act of 1995 and Electronic Commerce Act of the Philippines govern ICT activities in the Philippines. Law on e-Transaction, 2005 and Ordinance on Post and Telecommunications, 2002 are the legislative frameworks which regulate the ICT activities in Vietnam.

Overall, most of the legislations are designed to regulate the telecommunication spectrum, tariff rates, custom duties and taxes for the ICT hardware.

In most countries, the legislations on ICT have not been able to keep pace with the rapid advancements in ICT. The updating of the legal instrument is generally subject to slow bureaucratic procedures and strong political wills of the governments. Besides, specific legislations that facilitate access to ICT by rural disadvantaged population are still missing.

ICT Access to Disadvantaged Communities: Status review

The developments in satellite connectivity, optic fibers, wireless, internet, network security, access devices, mobile telephones, VoIP, multimedia etc. are examples of relevant and wide range of information and communication technologies available today. The application of these technologies through a wide range of services have benefited all spheres of development worldwide whether it be in economy, agriculture, education, health, industry and commerce, environment, science or art.

The report of a study on the *Assessment of the Implementation and Use of ICT Access Points in Asia and the Pacific* published in March 2007 by the ICT Applications Section of the Information, Communication and Space Technology Division of ESCAP have identified 11, 160 community telecentres operating in rural areas of the 16 nations of Asia and the Pacific. These telecentres provide one or many of the following ICT enabled services to empower them with knowledge and bring developments within the reach of the common people.

- Timely and useful information on markets, prices, access to raw materials, credits to local farmers, artisans, traders etc.
- Access to useful information on improving agriculture and livestock, farming and maintenance, handling problems
- Efficient services for health and sanitation (telemedicine) and education (distance learning), literacy improvement (non-formal education)
- Information on employment opportunities (domestic and abroad)
- News delivery (voice mail, email, e-postal service)
- Access to information on civil rights and responsibilities
- Statutory record collection (filing taxes, household information, property records)

It is recognized that rural multipurpose community telecentres are the most appropriate and common approach for ICT access to disadvantaged communities.

Most of the telecentre projects are funded by the government, multilateral donors, and international development agencies. UNESCO and UNDP have funded many telecentres projects.

Private sector investment in telecentres is very limited except a few highly commendable and innovative projects such as e-choupal and n-logue in India.

In Bangladesh, there are 10 telecentres that are recorded, and this amounts to about one telecentre per 10 million rural population. With 159 recorded telecentres in China, the average penetration is about 1 telecentre per 5 million rural population. India has the largest number with 8,874 recorded telecentres and these accounts to one telecentre per 90 thousand rural population. One project, e-choupal, alone covers more than 6,000 telecentres in India. Nepal has recorded 30 telecentres operating, and this accounts to one telecentre for about 700 thousand population. Four telecentres are recorded in the Philippines works out to be one telecentre for about 8 million of population. Kazakhstan and Viet Nam have no records of rural telecentres.

Most of the rural telecentres are managed by community-based organizations, local schools, local small scale entrepreneurs, non-government civil society organizations and cooperatives, except for one major project owned and managed by ITC International, a private sector business holding.

Two major problems have been observed in the operation of rural telecentres operated by government or civil society organizations or operating under their partnerships. These are (1) Enabling national policy and (2) Financial sustainability.

Problems such as high telecom charges, poor connectivity (interruptions in telephone connection) and power supply, lack of internet connectivity are some grave concerns of rural telecentres. There is grave lack of public awareness of the function and utility of the rural telecentres. Probably due to the lack of appropriate ICT enabled services that the community perceives as being beneficial to them, these telecentres have been operating as 'alien offices' that most rural community members do not relate to. The government-sponsored telecentres are at risk of financial sustainability. After the initial support for basic logistics (venue, ICT hardware, office furnishings etc.), the telecentres are facing problems in meeting even their operational costs. Maintenance of equipment poses both technical and financial problems.

Public-private partnerships have not been very successful because of problems related to ownership and accountability, lack of market-pull demand, and high investment risks. However, partnership between civil society organizations and their local governments are found to be much successful.

POLICY ISSUES AND CHALLENGES

Major Findings on Policy and Activities

The review of government policies and legislations of ICT industry and its application in facilitating access to the disadvantaged communities particularly to the rural poor population highlights some important findings as follows:

- Governments of the region are continuously trying to formulate specific policies and programs to strengthen the ICT industry. Since 2000 AD, they periodically review and update their ICT policies with major focus on information technology, telecommunication, science and technology, e-government and human capital development.
- Most of the governments have formulated long term and mid-term strategies consisting of specific action programs for ICT development. In this regard, most of the governments also make strategies for wider application of ICT in rural areas in collaboration with multi stakeholders.
- Barring a few cases of policy focus to empower the disadvantaged communities living in the rural areas, most policies merely emphasize on ensuring accessibility of ICT to the population as a whole on wider perspective.
- Generally, high level bodies at ministerial or even higher levels have been given the responsibility for policy and program formulation, regulatory function and facilitative function for the promotion and development of ICT.
- Although very few governments have instituted separate ministry responsible for ICT, many have introduced ICT as an extended function of the ministry along with responsibilities for other functions such as science and technology, information and communication, post and telegraphs, and so on. All these apex bodies have different objectives and purposes.
- In none of the countries in Asia and the Pacific is any rural development agency or an apex body with the responsibility for disadvantaged communities been made directly responsible for ICT. Few governments have constituted one specific central agency to

look after the overall scope of ICT, i.e., ICT development and ICT for development. Many governments are yet to seriously consider ICT as a development vehicle for the disadvantaged communities.

- Most nations have a common legislation for ICT uses, without distinguishing between advantaged and disadvantaged communities. Few have schemes for custom and tax rebate for ICT equipment for rural and educational purposes. Some governments also have provision for cross subsidizing by the communities from the urban users to create funds for ICT infrastructure development in rural areas.
- Many governments have opened up licensing for telecommunication access to private sectors creating competitions for the benefit to general public. Many governments have also liberalized ICT facilities for establishing and operating rural ICT telecentres on public-private partnership basis.
- Legislations are in place to regulate the telecommunication spectrum, tariff rates, custom duties and taxes for the hardwares. Specific legislations to facilitate access to ICT for rural disadvantaged population are still lacking.
- Many nations have realized the necessity of providing access to ICT enabled services for the rural communities and have facilitated the opening up of multipurpose community telecentres in the rural areas. Such telecentres are mostly funded by national or local governments or multilateral cooperating agencies. Most of the rural telecentres are managed by community-based organizations, local schools, local small scale entrepreneurs, non-government civil society organizations and cooperatives.
- Presently, there are fewer telecentres providing services in proportion to extent of rural and disadvantaged population living in the region. Even the few that are in operation are coping with inadequate funds and poor sustainability. These rural telecentres are mired by problems such as high telecom charges, lack of internet connectivity or poor connectivity (interruptions in telephone connection) and power supply. Public awareness of the function and utility of the rural telecentres appear to be another major weakness. In addition to problems of accessibility, affordability and sustainability, lack of general awareness of the benefit of telecentres among rural people are seen as the major problems in the overall development of rural telecentres.
- Public-private partnerships in the development of rural telecentres have not been very successful because of issues of ownership and accountability, lack of market-pull demand, and high investment risks. However, PPP along the social enterprise model of partnering between civil society organizations and local governments are found to be much more successful.

Opportunities and Threats of PPP managed ICT enabled services in rural setting

The SWOT analysis of the environments for the installation and operation of the rural telecentres in the context of developing nations of Asia and the Pacific region is shown in table below. This table assumes the aggregate level of social, political, technological and economic environments of the developing and least developed nations of the region.

Strengths (S)	Weaknesses (W)
<ul style="list-style-type: none"> • Organized community-based and self-help group organizations • Potential of producing abundant skilled manpower • Cheap and simple dedicated rural manpower • Abundant agricultural and traditional resources available in rural areas • Nationwide coverage of social infrastructures like post offices, schools and healthcare centres • Available multilateral and bilateral donors and cooperating agencies 	<ul style="list-style-type: none"> • Lack of countrywide broadband connectivity • Poor coverage by grid electricity and other power sources • Poor literacy rate • Poor economic condition and lack of internal financial resources • Steady rural-urban migration • Lack of trust between government and private sector • Spatially scattered rural settings especially in mountainous and island nations • Inability to develop indigenous information and communication technology (except for few nations)
Opportunities (O)	Threats (T)
<ul style="list-style-type: none"> • Use of basic social infrastructure of governments as premises for rural telecentres • Involvement of community-based organizations or cooperatives as social enterprises to manage rural telecentres • Motivating skilled rural manpower by providing incentives to manage rural telecentres • Involvement of donor agencies in infrastructure building of rural telecentres 	<ul style="list-style-type: none"> • Risky investment due to high cost of connectivity and utility • Developing contents in local languages • Not creating actual demand for services that would motivate disadvantaged people to pay for • Of not becoming successful in holding the skilled and capable manpower to operate the rural telecentre

It is quite apparent that governments have to resort to effective strategies to take advantage of the current opportunities and gradually reduce the threats for empowering the disadvantaged communities living in rural areas. For this, the governments should make correct assessment of the environments and promulgate encouraging policies and legislations.

In general, rural telecentres across the regions face three common problems which need to be addressed through appropriate policies. These are problems of accessibility, affordability, and sustainability. In addition to this, “*demand-ability*” should be added on this list, as a first and foremost requirement.

Policy Challenges

The policy makers face the following issues and challenges in ensuring the sustainability of telecentres in rural areas.

- According policy priority for ICT enabled services to the disadvantaged communities in rural areas so that such communities can have access to and share information efficiently and effectively.
- Enhancing aspirations of the rural communities to use the services provided by rural telecentres for their empowerment.
- Improving awareness of the importance of information in our daily life.
- Dispelling the “Service-is-Free” syndrome (particularly, "information is free" attitude) and motivating communities to pay for the services.
- Improving the paying capability and affordability of disadvantaged communities to enable them to buy the services of the rural telecentres.
- Motivating the national and international investors, cooperating agencies and donors in such a capital intensive business.
- Reducing donor-dependency psyche of the rural disadvantaged communities.
- Motivating private sector participation in investing and managing rural telecentres.
- Retarding the continual process of urban-pull literates.
- Addressing the security sensitivity of ICT enabled services.
- Speedy reviewing and updating of policy and legal instruments to respond to the rapid developments of ICT.

RECOMMENDATIONS AND CONCLUSION

Recommendations for Policy Reforms

The following policy reform recommendations are proposed on the basis of policy review of some nations of Asia and the Pacific. The recommendations also incorporate analysis carried out to identify major issues involved in promoting an appropriate public-private partnership social enterprise model for the sustainable operation of rural telecentres.

- Integration of the existing policies on broadcasting, telecommunication and rural development into one comprehensive ‘Broadband ICT Policy for Rural Development’.
- Formulation of appropriate policies to enhance *connectivity*, to encourage resourceful local *contents*, to encourage research on *computing* technology and to support *capacity* building for appropriate manpower and institutional capacity. Appropriate government budget needs to be allocated for localization of contents, research and promotion activities, and training and education.
- Improvement of connectivity at affordable prices in rural areas; promoting the role of private sector in extension of broadband connectivity; integration of ICT with the media through mobile technology, TV, radio, sensors and controllers.
- Encouragement to private sector and universities to develop locally specific contents that add value to the end users; work in cooperation with local communities.
- Encouragement to academia and research institutes to develop ICT equipments which are affordable, robust, and which require minimum maintenance, security efforts or other specialized skills; promoting integration of computer literacy and non-formal education to adults, women and disadvantaged rural population.

- Encouragement to private sector in the generation and distribution of affordable power supply through alternative energy sources to operate telecentres in rural areas; providing subsidy incentives for solar PV systems or power wind mills or other potential alternative sources to power VSAT for telecentres where national grid power is not accessible.
- Encouragement to development agencies to use ICT for development especially in rural areas; encouraging private sector initiatives in extending ICT enabled services in health care, education, market linkages, agriculture extension and marketing, and government service delivery in rural areas.
- Review and update of ICT policies and legislation biannually to reflect the fast changing developments in the ICT sector.
- Consolidation of existing legislations on telecommunication, broadcasting and IT to develop one broad umbrella ICT Act.
- Inclusion of legal provisions such as waiver on VSAT fees to ISPs and local rural service providers, reduction or waiver of customs duty on imports of ICT equipments used in rural areas, and tax exemption for a period of at least 10 years to private sector ISPs and service providers that operate and work in rural areas.
- Enactment of appropriate legislations on special tariff for connectivity and power for ICT enabled services in rural areas, facilitating credit access to ISPs and service providers on project lending concept, waiver on licensing and provisions for registration of the business with the local government for the purpose of monitoring.
- Establishment of one strong ministerial level institution such as Ministry of Information and Communications Technology for Rural Development with the scope to cover information, communication, broadcasting and development sub sectors in the nation by coordinating the activities of different ministries of education, health, science and technology, rural development, agriculture etc. This will greatly facilitate the promotion of ICT enabled services for disadvantaged communities in rural areas.

Conclusion

“ICT development” and “ICT for development” should be understood with two different perspectives. ICT development is a science, engineering and communications technology where academia, research institutions and private businesses may be interested to invest in, and promote the development of hardware and softwares related to it. ICT for development, on the other hand, refers to the socio-economic development of communities through ICT. ICT is a powerful means for empowering the society. The developed nations and the communities living in urban areas have access to the ICT, and may need minimal support of the government for utilizing ICT for their development. The communities living in rural settings are in disadvantaged situation due to their lack of awareness and knowledge of ICT for their development, and the lack of access to ICT in terms of availability and affordability. ICT service providers can not be sustainable in the form of enterprises unless full fledged market forces operate freely. Hence, appropriate policy and legislation regime is necessary to create an enabling environment for the social enterprise to operate sustainably and deliver services to empower rural disadvantaged communities.

Analogy can be drawn between the concept of “ICT for Development” that emerged at the beginning of the 2nd millennium and “Education for Development” that was propounded at the

beginning of the 1st millennium. ICT is analogous to the curriculum, pedagogies, teachers' training, stationery requirements, text books, etc., whereas, institutions and enterprises involved in ICT for development are like the schools, colleges and universities. Those nations that developed their educational system by establishing schooling system and universities made relatively rapid progress. Good education provided information, knowledge and then wisdom which ultimately empowered individuals and communities resulting in their development. Today, ICT has almost similar role. Nations with commitment for utilizing "ICT for Development" for empowering the disadvantaged communities need to carefully develop appropriate policies and legislations, facilitate the establishment of appropriate institutions and to adopt correct mechanisms to promote the use of ICT for development of the disadvantaged communities as fast as possible.

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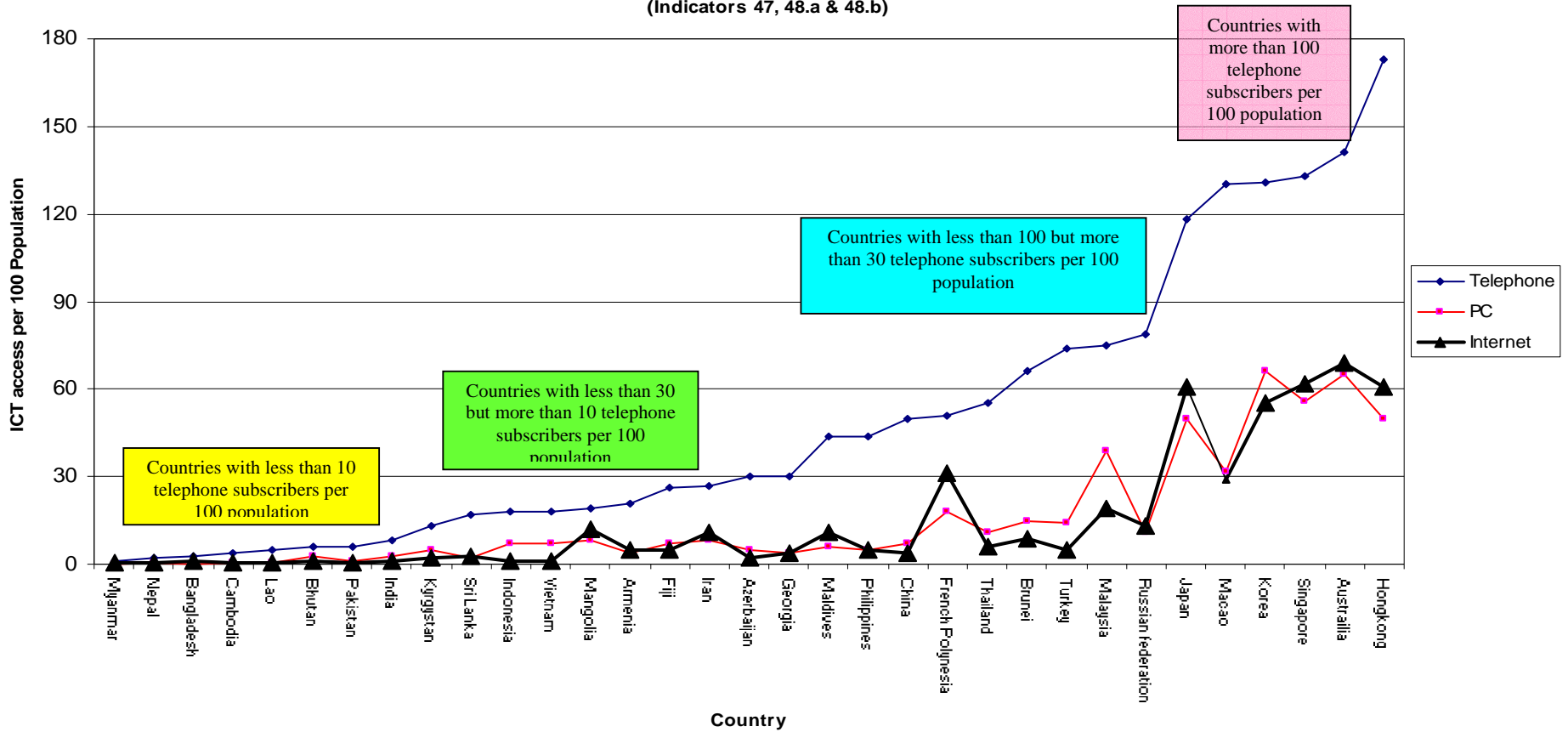
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ANNEX -1
MDG Goal 8-Target 18: Availability of ICTs in
100 population
(Indicators 47, 48.a & 48.b)



Source: Based on data of UN ESCAP/UNDP/ADB: The Millennium Development Goals: Progress in Asia and the Pacific, 2006